

## PROJECT DESCRIPTION

THIS PROJECT INVOLVES RECONSTRUCTION OF THE TRAFFIC SIGNAL AT THE INTERSECTION OF MD 528 & PACIFIC AVENUE INCLUDING APS PUSHBUTTONS, LED COUNTDOWN PEDESTRIAN SIGNAL HEADS, LED TRAFFIC SIGNAL HEADS AND VIDEO DETECTION. MD 528 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

## INTERSECTION OPERATION

THIS INTERSECTION WILL OPERATE IN A NEMA FIVE-PHASE FULL-TRAFFIC-ACTUATED MODE WITH ALTERNATE PEDESTRIAN PHASES FOR THE NORTH AND SOUTH LEGS OF THE INTERSECTION. THE MD 528 LEFT/RIGHT TURNS OPERATE IN EXCLUSIVE-PERMISSIVE PHASING.

## CONTROLLER REQUIREMENTS

A FULL-TRAFFIC-ACTUATED EIGHT PHASE TRAFFIC SIGNAL CONTROLLER WITH TELEMETRY CABLE HOUSED IN A BASE MOUNTED CABINET SHALL BE FURNISHED BY SHA AND INSTALLED BY THE CONTRACTOR. VIDEO DETECTION INTERFACE EQUIPMENT SHALL BE FURNISHED BY SHA. AN APS CENTRAL CONTROL UNIT SHALL BE FURNISHED BY THE CONTRACTOR AND INSTALLED BY SHA.

## SPECIAL NOTES

APS WILL FUNCTION AS FOLLOWS:

TO CROSS COASTAL HIGHWAY:

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS COASTAL AT PACIFIC. WAIT."

B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

## CONTACT PERSONS FOR DISTRICT #1 ARE AS FOLLOWS:

MR. KENNETH CIMINO  
ASSISTANT DISTRICT ENGINEER-TRAFFIC  
PHONE: (410) 677-4040

MR. GREG HOLSEY  
ASSISTANT DISTRICT ENGINEER - CONST.  
PHONE: (410) 677-4020

MR. BRUCE POOLE  
DISTRICT UTILITY ENGINEER  
PHONE: (410) 677-4082

MR. JAMES WRIGHT  
ASSISTANT DISTRICT ENGINEER - MAINT.  
PHONE: (410) 677-4010

MR. TERRY MCGEAN  
TOWN OF OCEAN CITY - CITY ENGINEER  
PHONE: (410) 289-8845

## CONTACT PERSONS FOR DOTS ARE AS FOLLOWS:

MR. RICHARD L. DAFF, SR.  
CHIEF, TRAFFIC OPERATIONS  
DIVISION  
PHONE: (410)787-7630

MR. ROBERT SNYDER  
ASSISTANT DIVISION CHIEF  
TRAFFIC OPERATIONS  
PHONE: (410)787-7630

MR. JOHN GOVER  
OFFICE OF HIGHWAY DESIGN  
PHONE: (410) 545-8766

MR. ED RODENHIZER  
CHIEF, SIGNAL OPERATIONS  
PHONE: (410)787-7650

MR. EUGENE BAILEY  
CHIEF, SIGN OPERATIONS  
PHONE: (410)787-7676

## EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
9042	CONTROLLER ASC II WITH TELEMETRY	EA	1
9044	CONTROLLER CABINET, SIZE 6	EA	1
9086	VIDEO DETECTION INTERFACE EQUIPMENT: 1-4 CAMERAS	EA	1
9571	SHEET ALUMINUM MAST ARM / POLE MOUNTED SIGN	SF	54
	4 - D-3(1) (76"x16")		
	1 - D-3(1) (72"x16")		
	1 - R10-12(1) (30"x36")		
	4 - R10-3(1) (9"x15")		

## WIRING KEY

I,J,K,L	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	T	EXISTING 12-PAIR COMMUNICATION CABLE (NO. 19 AWG) SELF-SUPPORTING OVERHEAD TO BE DISCONNECTED, PULLED BACK & REROUTED
C,E,H,M N,O,P	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	U	12-PAIR COMMUNICATION CABLE (NO. 19 AWG) SELF-SUPPORTING OVERHEAD
A,B,D F,G	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	PF	RELOCATED UNDERGROUND POWER SERVICE BY DELMARVA
V	1-CONDUCTOR ELECTRICAL CABLE (NO. 4 AWG) 3 RUNS	Z	STRANDED BARE COPPER GROUND WIRE (NO. 6 AWG)
Q,R,S	VIDEO DETECTION CAMERA CABLE (3-CONDUCTOR, NO. 18 AWG)	+	PROPOSED GROUND ROD

## EQUIPMENT LIST "B"

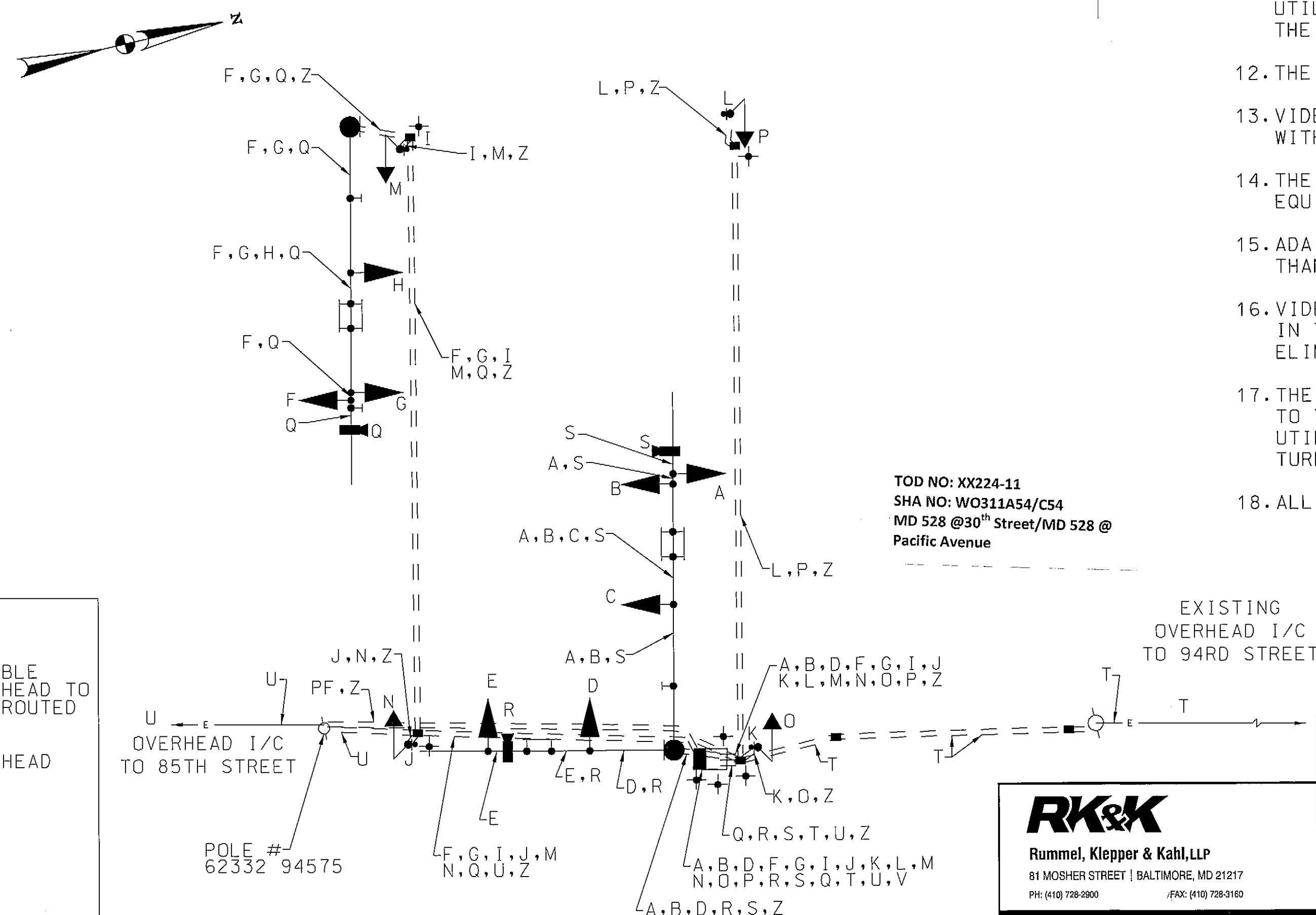
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
1001	MAINTENANCE OF TRAFFIC	EA	3
2002	TEST PIT EXCAVATION	CY	2
5003	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS	LF	1200
5005	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	1200
6002	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH	LF	249
6004	5 INCH CONCRETE SIDEWALK	SF	1,246
8001	12 INCH LED SIGNAL HEAD SECTION	EA	26
8002	2 WIRE CENTRAL CONTROL UNIT	EA	1
8004	8 INCH LED SIGNAL HEAD SECTION	EA	6
8007	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION & SIGNS	EA	4
8020	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEADS	EA	4
8024	MAST ARM POLE & 70 FT MAST ARM ANY 'T' DIMENSION	EA	1
8028	BREAKAWAY PEDESTAL POLE (ANY SIZE)	EA	4
8029	REMOVE & DISPOSE MATERIAL & EQUIPMENT PER ASSIGNMENT	EA	1
8032	TWIN MAST ARM POLE & 50 FT/70 FT MAST ARMS ANY 'T' DIMENSION	EA	3
8034	VIDEO DETECTION CAMERA & CABLE	EA	3
8035	12 PAIR COMMUNICATION CABLE, SELF-SUPPORTING AND/OR JELLYFILLED	LF	1585
8036	3 INCH ELECTRICAL CONDUIT-PVC RISER	LF	60
8039	DISCONNECT, PULL-BACK & REROUTE CABLES	LF	200
8041	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - BORED	LF	300
8043	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - TRENCHED	LF	280
8044	WOOD SIGN SUPPORTS UP TO 4 X 6 INCHES	LF	32
8045	DETECTABLE WARNING SURFACES	SF	83
8046	INSTALL GROUND MOUNT AND/OR OVERHEAD SIGN	SF	54
8048	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	480
8050	WEATHER HEAD, 3 INCH	EA	2
8052	ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 VOLTS 60 AMPS	EA	1
8053	ELECTRICAL CABLE 1-CONDUCTOR NO. 4 AWG-THHN/THWN	EA	100
8054	FURNISH AND INSTALL ELECTRICAL HANDHOLE	EA	6
8062	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	LF	450
8064	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	LF	520
8065	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)	LF	760
8073	INSTALL CONTROLLER AND CABINET - BASE MOUNT	EA	1
NEG	RELOCATE EXISTING SIGN	EA	8

## EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANDOVER, MARYLAND 21076.

SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME PROPERTY OF THE CONTRACTOR.



## PHASING CHART

NO PHASE CHANGE

## GENERAL NOTES

- ALL EXISTING FOUNDATION TOPS WITHIN EXISTING SIDEWALK SHALL BE REMOVED 2" BELOW SIDEWALK GRADE AND NEW SIDEWALK SHALL BE INSTALLED TO BE FLUSH WITH FINAL GRADE.
- ALL PROPOSED FOUNDATION TOPS SHALL BE INSTALLED FLUSH WITH SIDEWALK GRADE.
- ACCESSIBLE PEDESTRIAN CONTROL EQUIPMENT SHALL BE DELIVERED TO THE SHA SIGNAL SHOP FOR TESTING AND PROGRAMMING PRIOR TO INSTALLATION. CONTACT MR. EDWARD RODENHIZER AT 410-787-7652 TO COORDINATE.
- LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SECTION 4E.09 AND FIGURE 4E.2 AND THE NCHRP PUBLICATION, "ACCESSIBLE PEDESTRIAN SIGNALS: GUIDE TO BEST PRACTICE." IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL A DESIGN WAIVER IS OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
- PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR REACHING LESS THAN 18" FROM A 60" X 60" LEVEL LANDING AREA WITH A CROSS SLOPE OF LESS THAN OR EQUAL TO 2%.
- THE 10' SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON, NOT CENTER TO CENTER OF POLE.
- PUSHBUTTON ARROWS AND SIGNS ARE TO BE ORIENTED PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
- ANY HARDWARE NECESSARY FOR THE INSTALLATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT SHALL BE INCIDENTAL TO THE PERTINANT RELOCATE PAY ITEM.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABEL EACH CABLE.
- THE CONTRACTOR SHALL COORDINATE WITH DISTRICT 1 TRAFFIC TO COORDINATE TRAFFIC SIGNAL TURN OFF AND TEMPORARY STOP CONTROL. CONTRACTOR SHALL VERIFY ANY EVENT OR DATE RESTRICTIONS PRIOR TO TRAFFIC SIGNAL TURN OFF.
- UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "MISS UTILITY" PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
- THE CONTRACTOR SHALL VERIFY ALL POLE LOCATIONS PRIOR TO INSTALLATION.
- VIDEO DETECTION CAMERA LOCATION/ALIGNMENT SHALL BE COORDINATED WITH THE ENGINEER.
- THE CONTRACTOR SHALL CAP AND ABANDON CONDUIT FEEDING SIGNAL EQUIPMENT THAT IS REMOVED.
- ADA REQUIRES THAT ANY ABRUPT CHANGE IN ELEVATION IN SIDEWALK BE LESS THAN 1/4".
- VIDEO DETECTION CAMERAS FOR WEST APPROACH SHALL BE CHECKED IN THE FIELD BY THE ENGINEER PRIOR TO PERMANENT INSTALLATION TO ELIMINATE ANY POSSIBLE TELECOMMUNICATION CABLE CONFLICTS.
- THE CONTRACTOR SHALL ENSURE ALL UNDERGROUND UTILITIES ARE MARKED PRIOR TO TRAFFIC SIGNAL STAKEOUT. THE CONTRACTOR SHALL ENSURE ALL UNDERGROUND UTILITIES ARE MARKED AND STAKEOUT HAS OCCURED PRIOR TO TRAFFIC SIGNAL TURN OFF.
- ALL UNUSED CABLE SHALL BE REMOVED AND DISPOSED.

**SHA**

STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
OFFICE OF TRAFFIC & SAFETY  
TRAFFIC ENGINEERING DESIGN DIVISION

MD 528 (COASTAL HWY.) AT PACIFIC AVE.  
OCEAN CITY, MARYLAND

## REVISIONS

## GENERAL INFORMATION SHEET

SCALE	NONE	DATE	JUNE 2011	CONTRACT NO.	XX2245185
DESIGNED BY	BJG	COUNTY	WORCESTER		
DRAWN BY	BJG	LOGMILE	230.780317		
CHECKED BY	BLB	TMS NO.	449		
FAP NO.		TOD NO.			
TS NO.2261B-GI	DRAWING	SG-4	OF 4	SHEET NO.	5 OF 8

**RK&K**  
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PLOTTED: Tuesday, June 28, 2011 AT 11:51 AM  
FILE: \\pklm\2007\2007\07056\_shahdd\Task06\_MD\_528 ADA\CADD\Pacific Ave\p04-P000\_Pacific.dgn